

## **"Diploma thesis abstract"**

The experimental investigation of hypersound originated by stimulated Brillouin Scattering process.

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The experimental setup was assembled, which made it possible to investigate the spatial dependence of hypersound (HS) originated by the stimulated Brillouin Scattering (SBS) process produced by the focused laser beam. The method was based on measure of Brag scattering efficiency of a probe beam by the refractive index grating of hypersound wave. For the hypersound investigation we used the Brag scattering phenomenon of the weak (probe) laser beam on the grating refracting index, associated with hypersound. The broadcast photodetector was manufactured for registrations weak signal of scattering. The programm was create that enabled us to rule over measuring process.

The intensity of scattered beam was detected as a function of the coordinate  $z$  along the pumping laser beam direction, which permitted us to detect the intensity of HS as a function of  $z$ . The measurements was fulfilled for the different intensities of pump laser beam and for two different focuses lens. When pump laser intensities was two times above the threshold we detected the local fluctuations of HS intensity, which presumably associate with accidental nature of SBS phenomena. We have shown the intence HS far away from the focal point.